## REMARKS

**Status of Claims**

Claims 1 and 8 are currently pending in this application. Claims 1 and 8 have been amended. Reconsideration of the application is respectfully requested.

**Applicants' Response to Rejection under §112**

The Examiner has rejected claims 1 and 8 under 35 U.S.C. §112, first paragraph as allegedly based on disclosure which is not enabling. Applicants have amended claims 1 and 8.

The Examiner alleges that the term "molar weight" ratio is not present in the Applicant's specification. Applicants have amended claims 1 and 8 to delete the term "weight" from "molar weight ratio." Accordingly, Applicants respectfully submit that the Section 112 rejection has been overcome and should be withdrawn.

**Applicants' Response to Rejection under §103 over Lin in view of Tokutake**

Claims 1 and 8 have been rejected under 35 U.S.C. §103(a), as allegedly unpatentable over U.S. Patent No. 6,340,734 to Lin et al. (hereinafter "Lin") alone or in view of Japanese Patent No. JP 4-130324 to Tokutake et al. (hereinafter "Tokutake"). Applicant respectfully traverses the rejection on the basis that the combination of references fails to render the claims *prima facie* obvious, as amended herein.

The Examiner alleges that:

> the polymer hydroxybenzylsilsesquioxane units and phenylsilsesquioxane units mentioned by Lin et al. is actually an alternative to the genus of polymer materials that represent the primary focus of their invention. It is acknowledged that when describing these alternatives, there is no express disclosure of the favored ratio of units bearing alkali-soluble groups to units bearing alkali-insoluble groups. It is the Examiner's position, however, that the skilled artisan will appreciate that this ratio would preferably much the same as it is in the copolymers that represent the preferred embodiments of that invention, i.e. where

> the contribution of units alkali-soluble groups as a fraction of the total is 0.4 to 1 (corresponding to a molar ratio of 4:6 to 1:0 which overlaps substantially with the ratio being recited).
>
> (Office Action of 12/4/2006, at page 2-3).

The Examiner further alleges that:

> had Lin been completely silent as to a preferred molar ratio of these units, the skilled artisan would have been forced to consult the related prior art to see what ratio of these units had been advocated in those disclosures. In this connection, Tokutake states that a mole ratio of units bearing alkali-soluble groups to units bearing alkali-insoluble groups should be 5:5 to 7:3 which overlaps completely with the range now present in claims 1 and 8. It is said that the effects of the invention, i.e. a positive resist having high resistance to oxygen plasma and excellent pattern cross section attributes is not realized if the ratio of these units is outside that taught on the first page of the document.
>
> (Office Action of 12/4/2006, at page 3).

Applicants have amended claims 1 and 8 herein to further define the invention. In particular, Applicants have added a recitation in claims 1 and 8 that requires p-hydroxybenzlsilsesquioxane as the structure of unit (a1) and the molecular weight of 2,000 to 20,000. This amendment is supported by disclosure in Example 1 on page 29 of the specification as originally filed. Specifically, Example 1 states that Ingredient (A) contains, "the resin obtained in Preparation Example (a copoly(p-hydroxybenzyl/phenyl-silsesquioxane) comprising a p-hydroxybenzylsilsesquioxane unit." In addition, this amendment is supported by disclosure appearing on page 10 of the Specification as originally filed. Specifically, page 10 states, "Ingredient (A) has a molecular weight of preferably from 1,000 to 10,000 and more preferably from 2,000 to 20,000."

At the outset, the Applicants would like to point out that claim 1 recites a polysiloxane resin *consisting essentially of* a siloxane unit containing a p-hydroxybenzylsilsesquioxane unit as an alkali-soluble group, and (a2) a phenylsilsesquioxane unit containing an alkali-insoluble

group, and alkali-insoluble group having no acid-decomposable group. In addition, claim 8 recites a polysiloxane resin *consisting of* a siloxane unit containing a p-hydroxybenzylsilsesquioxane unit as an alkali-soluble group, and (a2) a phenylsilsesquioxane unit containing an alkali-insoluble group, and alkali-insoluble group having no acid-decomposable group. It is well established that the term "consisting essentially of", "limits the scope of a claim to the specified materials or steps 'and those that do not materially affect the basic and novel characteristic(s)' of the claimed invention." *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976) (emphasis in original). It is also well established that "consisting of" is a limits the scope of the claim and "excludes any element, step or ingredient not specified in the claim." *In re Grey*, 53 F.2d 520, 11 USPQ 255 (CCPA 1931). Accordingly, the cited references do not teach or suggest the presently claimed invention.

The purpose of Lin centers around an improved silsesquioxane polymer, specifically those with the formula $[Si(R_1)O_{1.5}]_n[Si(R_2)O_{1.5}]_m$. Lin further explains that $R_1$ contains an aromatic group and is preferably HO-Ph-$C_aH_{2a}$, wherein $_a$ is "at least two." (Lin, col. 5, ll. 12-12). A hydroxybenzyl group has the formula HO-Ph-$CH_2$-. Accordingly, Lin excludes a resin containing a hydroxybenzyl group.

In view of the above, nowhere in Lin is a polysiloxane resin which consists of the claimed components (a1) and (a2) in the specified ratio disclosed, taught or suggested. Tokutake does not disclose the polysiloxane resin of the present invention and was merely cited for its disclosure of mole ratios. Therefore, Tokutake clearly fails to cure the deficiencies of Lin in this regard. Applicants submit that claims 1 and 8 are patentable over Lin alone or in combination with Tokutake. Withdrawal of this rejection is respectfully requested.

In addition, the Examiner alleges that the Applicants do not show criticality for the ratio parameter. The Applicants respectfully disagree. As the Applicants argued in the previous response and as seen in the Examples, such molar ratio provides advantageous positive resist compositions. Specifically, Example 1 yielded a 180-nm line-and-space pattern with a

satisfactory, nearly rectangular sectional shape at an exposure of 22 $mJ/cm^2$. In contrast, the Comparative Example only yielded a 200-nm line-and-space pattern at an exposure of 25 $mJ/cm^2$.

Having responded in full to the present Office Action, it is respectfully submitted that the application is in condition for allowance. Favorable action thereon is respectfully solicited.

The Commissioner is hereby authorized to charge payment of any additional fees associated with this communication, or credit any overpayment, to Deposit Account No. 08-2461. Such authorization includes authorization to charge fees for extensions of time, if any, under 37 C.F.R. § 1.17 and also should be treated as a constructive petition for an extension of time in this reply or any future reply pursuant to 37 C.F.R. § 1.136.

Should the Examiner have any questions or comments concerning the above, the Examiner is respectfully invited to contact the undersigned attorney at the telephone number given below.

Respectfully submitted,

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